

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U. S. Application No. 10/618,817**

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (canceled).

2. (currently amended): The An image distortion compensating apparatus of claim 1, which controls a convergence yoke, comprising:

a compensation value generator for calculating a convergence compensation value for compensating a convergence distortion which occurs while an image signal is emitted onto a display apparatus, the compensation value generator outputting the convergence compensation value after compensating for a phase and a gain of the convergence yoke;

an amplifier of a D-class for amplifying the convergence compensation value;  
a convergence yoke for controlling a path of electron beams corresponding to the image signal, based on the convergence compensation value as amplified at the amplifier; and  
further comprising a feedback sensor provided between the convergence yoke and the compensation value generator, for reducing a noise outputted from the convergence yoke through a differential amplification.

3. (currently amended): The image distortion compensation apparatus of claim 2, wherein the compensation value generator comprises:

a convergence module for synchronizing to a horizontal synchronization signal and a vertical synchronization signal applied to the display apparatus and outputting a predetermined convergence distortion value;

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U. S. Application No. 10/618,817**

a triangular wave generator for generating a triangular wave;  
a combiner for combining the convergence distortion value and an output from the feedback sensor;  
a comparator for comparing the convergence distortion value outputted from the combiner with a phase level of the triangular wave; and  
a pulse generator for generating the convergence compensation value in ~~the~~ a form of a pulse width modulating signal based on the comparison result from the comparator.

4. (original): The image distortion compensating apparatus of claim 3, wherein the combiner comprises:

a first resistor for being inputted with an output from the feedback sensor;  
an operational amplifier for being inputted with an output from the first resistor as a negative input and the convergence distortion value as a positive input;  
a second resistor and a first capacitor, both of which are connected in series between a negative input terminal and an output terminal of the operational amplifier; and  
a second capacitor and a third resistor, both of which are connected in parallel between the negative input terminal and the output terminal of the operational amplifier.

5. (currently amended): The image distortion compensating apparatus of claim 4, wherein the combiner has a transfer function of [,]

$$H(S) = \frac{Z3}{R1} = \frac{R3 \cdot R2 \cdot C1 S + R3}{R1 \cdot R2 \cdot R3 \cdot C1 \cdot C2 S^2 + (R1 \cdot R3 \cdot C2 + R1 \cdot R2 \cdot C1 + R1 \cdot R3 \cdot C1)S + R1}$$

**AMENDMENT UNDER 37 C.F.R. § 1.111**

**U. S. Application No. 10/618,817**

where R1 is a resistance of the first resistor, R2 is a resistance of the second resistor, R3 is a resistance of the third resistor, C1 is a capacitance of the first capacitor, C2 is a capacitance of the second capacitor, and Z3 is a total impedance of the combiner.

6. (currently amended): The image distortion compensating apparatus of claim 5, wherein the transfer function of the combiner has ~~the~~ a control characteristic of 2-pole and 1-zero.

7. (currently amended): The image distortion compensating apparatus of claim 6, further comprising a low pass filter provided between the amplifier and the convergence yoke, for reducing the noise of the amplifier by a predetermined amount ~~in accordance with a predetermined value~~.

8. (currently amended): An image distortion compensating method for controlling a convergence yoke, comprising the steps of:

calculating a convergence compensation value for compensating a convergence distortion which occurs while an image signal is emitted onto a display apparatus in consideration of a phase and a gain of the convergence yoke;

D-class amplifying in response to the convergence compensation value; ~~[[and]]~~  
forming a predetermined magnetic field by the D-class amplification, and controlling a path of electron beams corresponding to the image signal by the magnetic field as formed~~[[.]]~~; and

sensing an output of the convergence yoke and removing a noise from the convergence yoke output through a differential amplification.

9. (canceled).

***AMENDMENT UNDER 37 C.F.R. § 1.111***

***U. S. Application No. 10/618,817***

10. (currently amended): The image distortion compensating method of claim [[9]]8,  
wherein the step of D-class amplifying further comprises ~~the~~ a step of low pass filtering the  
amplified convergence compensation value.